MATH 1210 Tutorial 2

1. Evaluate

$$\sum_{n=16}^{39} (2n^2 + 3n + 4).$$

2. Evaluate the sum

$$1(52)^2 + 2(51)^2 + 3(50)^2 + \cdots + 33(20)^2.$$

3. Simplify each of the following expressions to Cartesian form:

   (a) $\dfrac{(1 + 2i^3)^2 \overline{(3 - i)}}{4 + i}$ (b) $\overline{(1 + \bar{i})^{15}}$

4. Find the square roots of $5 + 12i$ using the procedure of Exercise 44 in Section 2.1.

Answers:

1. $40,676$ 2. $562,496$

3.(a) $\dfrac{-35}{17} - \dfrac{55}{17}i$ (b) $2^7(1 - i)$

4. $\pm(3 + 2i)$